Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

HW#73H: Parallelograms

Honors Geometry

Due: Tuesday, April 8th, 2014

**Failure to show all work and write in complete sentences will result in LaSalle!**

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| 1) Find the value of each variable in the parallelogram. | 2) Find the value of each variable in the parallelogram. |
| 3) Find the value of each variable in the parallelogram. | 4) Find the value of each variable in the parallelogram. |
| 5) Use the diagram of parallelogram MNOP and parallelogram QRST. Points Q, R, S and T are midpoints of MX, NX, OX, and PX. Find the indicated measure.     1. *PN* 2. *MQ* 3. *XO* 4. *m*∠*NMQ* 5. *m*∠*NXO* 6. *m*∠*MNP* 7. *m*∠*NPO* 8. *m*∠*NOP* | 6) Find the area of the parallelogram. |
| 7) Find the area of the shaded polygon. |

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| 8) If the area of a square is 49 m. How long is the diagonal of the square? | 9) If the sides meet at right angles, find the perimeter of the figure.  14  10  13 |
| 10) For a given rectangle, the length is 6 units longer than the width. If the perimeter of the rectangle is 44 units. Find the area of the rectangle. | 11) The following baseball field is in desperate need of a new fence. If each straight side measures 300 ft. How many feet of new fencing should be purchased?  **Exact Answer: Approx. Answer:** |
| 12) The sides of a square are decreased by 3 cm, the area is decreased by 81 cm2. What were the dimensions of the original square? | 13) Computer monitors are measured by their diagonals. If a monitor is advertised to be 15 in, what is the actual viewing area, assuming the screen is square? Leave your answer as a simplified radical. |
| 14) Given: ABCD is a parallelogram.  Prove: The diagonals of ABCD are bisectors (in other words, prove that AE congruent to CE and DE congruent to BE) | |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

HW#74H: RRS

Honors Geometry

Due: Friday, March 28th, 2014

**Failure to show all work and write in complete sentences will result in LaSalle!**

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| 1) One diagonal of a rhombus is 6 inches and the other is 8 inches.  a. How long is each side of the rhombus?  b. Find the perimeter.  c. Find the area. | | 2) The diagonal of a square is 20 cm. Find the length of one side of the square and the perimeter of the entire square.  a. How long is each side of the square?  b. Find the perimeter.  c. Find the area. | |
| 3) Name each quadrilateral—*parallelogram, rectangle, rhombus,* and *square*—for which the statement is true.   1. It is equilateral. 2. The diagonals are congruent. 3. It can contain obtuse angles. 4. It contains no acute angles. | | 4) Classify the special quadrilateral. *Explain* your reasoning. Then find the values of *x* and *y.* | |
| 5) Classify the special quadrilateral. *Explain* your reasoning. Then find the values of *x* and *y.* | 6) The diagonals of rhombus *PQRS* intersect at *T*. Given that *m*∠*RPS* = 30° and *RT* = 6, find the indicated measure.   1. *m***∠***QPR* 2. *m***∠***QTP* 3. *RP* 4. *QT* | |  |

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| 3) The size of the obtuse angle of a rhombus is twice the size of its acute angle. The side length of the rhombus is equal to 20 feet. Find its area. | 4) The lengths of the diagonals of a rhombus are 10 and 24 meters. Find the perimeter of the rhombus. Find the area. |
| 5) The perimeter of a rhombus is 60 feet and one of its diagonal has a length of 20 feet. Find the area of the rhombus. | 6)Given: *ABCD* is a rhombus.  B  A  Prove:  x  C  D |
| 7) |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

HW#75H: Trapezoids & Kites

Honors Geometry

Due:

**Failure to show all work and write in complete sentences will result in LaSalle!**

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| 1) Find the measures of angles B, C and D. | 2) Find the midsegment RT.  a.  b.  What is the area of WXTR? What is the area of XYTR?  What is the area of RTYZ? What is the area of RTZW? |
| 3) *WEST* is a kite. Find the measures of the missing angles.  a.  b. | 4) Use the Pythagorean Theorem to find the side lengths of the kite. Find the perimeter. |
| 5) Find the area of the parallelogram below. | 6) Find the area of the trapezoid below.. |
| 7) Find the area of the kite below. | 8) In the kite below, PQ = 5 cm, PS = 5 cm, QS = 6 cm, and TR = 12 cm. What is the area of the kite? |

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| 9) A rhombus has diagonals of 20 ft and 34 ft. What is the area of the rhombus? | 10) A rhombus has four equal side lengths of 13 in. The length of the longer diagonal is 24 in. What is the area of the rhombus? |
| 11) In parallelogram MATH, the measure of ∠ T exceeds two times the measure of ∠H by 30. What is the measure of the largest angle of the parallelogram? **Draw a picture to help you!** | 12) In trapezoid ABCD, m<ABD = 30, m<BDC = 30,  m<ADB = 40, m<BCD = 70, AD = x + 5, and  BC = 3x - 21. What are the lengths of sides AD and BC? |
| 13) In isosceles trapezoid ABCD, BC||AD. The measure of <ADC=4x+20 and the measure of <DAB = 8x - 20. Find the value of x, <ADC, <DAB, <BCD, and <ABC. | 14) Given: Isosceles trapezoid ABCD with BC ||AD. If m<A = 4(x+5) and m<D = 2(x+15) + 8, find m<A, m<B, m<C, and m<D. |
| 15) PQRS is a rhombus. The shorter diagonal PR  measures 12 units, and the measure of  ∠PQR = 60ᵒ. Find the length of a side of the rhombus. | 16) In rhombus ABCD, the measure of <ABC = 120ᵒ. If AB = 10 find the length of the shorter diagonal BD. |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

HW#76H: Quadrilateral Review

Honors Geometry

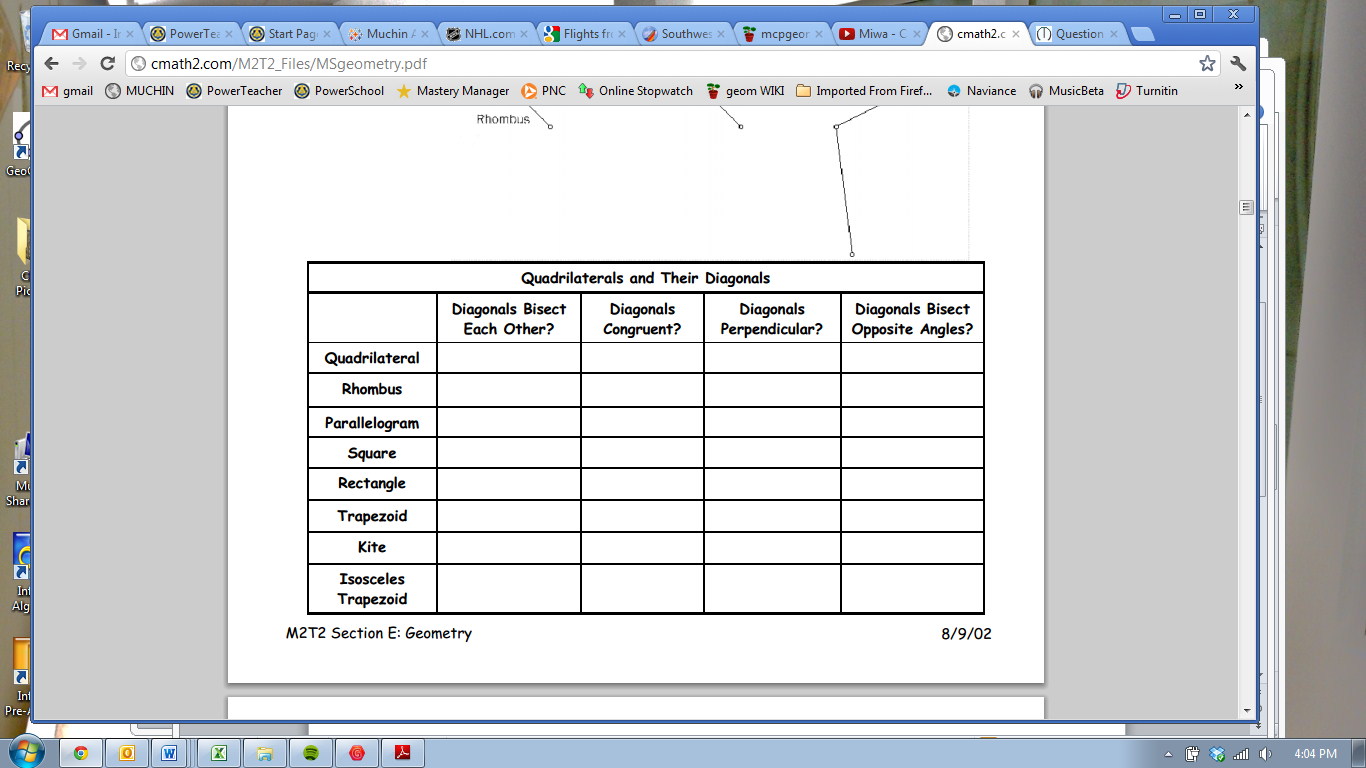
Due:

**Failure to show all work and write in complete sentences will result in LaSalle!**

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| 1) **Parallelogram**   1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sides are parallel PL \_\_\_ AR, AP\_\_ RL 2. The \_\_\_\_\_\_\_\_\_\_\_\_ sides are \_\_\_\_\_\_\_\_\_\_\_ 3. The opposite angles are \_\_\_\_\_\_\_\_\_\_\_ 4. The \_\_\_\_\_\_\_\_\_\_\_bisect each other 5. Any \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ angles are supplementary |
| 2) **Rectangle**   1. All properties of a parallelogram apply to rectangle 2. All angles are \_\_\_\_\_\_\_\_\_\_\_ angles 3. The diagonals are \_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3) **Kite**   1. Two \_\_\_\_\_\_\_\_\_\_\_\_\_\_ pairs of consecutive sides are congruent 2. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are perpendicular 3. \_\_\_\_\_\_\_\_ diagonal is \_\_\_\_\_\_\_\_\_ bisector of the other 4. One of the \_\_\_\_\_\_\_\_\_\_\_\_\_ bisect a pair of opposite angles 5. One pair of\_\_\_\_\_\_\_\_\_\_ angles are congruent |
| 4) **Rhombus**   1. All the properties of a parallelogram applies to rhombus 2. All the properties apply to a rhombus 3. All the \_\_\_\_\_\_\_\_\_\_\_\_\_ are congruent, (rhombus is equilateral) 4. The \_\_\_\_\_\_\_\_\_\_\_\_ bisect the angles 5. The diagonals are \_\_\_\_\_\_\_\_\_\_\_\_\_ bisectors of each other 6. The diagonals divide the rhombus into \_\_\_\_\_\_\_congruent right triangles |
| 5) **Square**   1. All properties of a rectangle apply to square 2. All properties of rhombus apply by to square 3. The diagonals form four isosceles right triangle |
| 6) **Isosceles Trapezoid**   1. The legs are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by definition 2. The bases are parallel 3. The \_\_\_\_\_\_\_\_ base angles are congruent 4. The \_\_\_\_\_\_\_\_ base angels are congruent 5. The \_\_\_\_\_\_\_\_\_\_ are congruent 6. Any lower base angle is supplementary to any upper base angle |

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| 1) Which statement is true?  A. All parallelograms are squares.  B. All squares are parallelograms  C. All quadrilaterals are parallelograms  D.All kites are trapezoids | 2) State the most specific name the figure. |
| 3) State the most specific name the figure. | 4) State the most specific name the figure. |

**Directions:** Put in “X” for each property that applies to each type of quadrilateral.



**Directions:** Match the description with ***all*** the terms that fit it.

1. **Trapezoid b. Isosceles triangle c. Parallelogram d. Rhombus**

**e. Kite f. Rectangle g. Square h. All quadrilaterals**

1. \_\_\_\_\_\_\_\_\_\_\_Diagonals bisect each other.
2. \_\_\_\_\_\_\_\_\_\_\_Diagonals are congruent.
3. \_\_\_\_\_\_\_\_\_\_\_Opposite sides are congruent.
4. \_\_\_\_\_\_\_\_\_\_\_Both diagonals bisect angles.
5. \_\_\_\_\_\_\_\_\_\_\_Diagonals are perpendicular.
6. \_\_\_\_\_\_\_\_\_\_\_Measure of interior angles sum to 360°
7. \_\_\_\_\_\_\_\_\_\_\_Opposite angles are congruent.
8. \_\_\_\_\_\_\_\_\_\_\_Diagonals are perpendicular bisector of each other.

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| 5) Find the measurements of angle B, C, and D. | 6) Which of the following quadrilaterals have diagonals that are perpendicular?   1. Parallelogram 2. Rhombus 3. Square 4. Kite 5. I 6. II and III only 7. II, III, and IV 8. II and IV only 9. All of the above   To prove your answer above, draw four different diagrams with their diagonals.   |  |  | | --- | --- | | Parallelogram | Rhombus | | Square | Kite | |
| 7) If one diagonal of a rhombus is 10 cm and the other 24 cm, how long is each side of the rhombus? |
| 8) Find the length of DE.   1. 5 2. 5 3. 6 4. 6   Justify your answer in a sentence:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9) If one diagonal of a rhombus is 24 cm and the other is 70 cm, how long is each side of the rhombus? | 10) State whether each statement is always true, sometimes true, or never true.   1. A rhombus is a square. 2. A square is a rectangle. 3. Diagonals of a rectangle bisect each other. 4. A trapezoid is a parallelogram. |

**Practice Quiz Questions:**

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| **1.** Which of the following have all sides congruent?   1. Square 2. Rectangle 3. Rhombus 4. I 5. I and II only 6. I and III only 7. None of the above 8. All of the above | **2.** Which of the following parallelograms have congruent diagonals?   1. Square 2. Rectangle 3. Rhombus 4. I only 5. I and II only 6. I and III only 7. None of the above 8. All of the above |
| 3.Tell if the statement is always true, sometimes true, or never true. | 4. Name each quadrilateral – parallelogram, rectangle, rhombus and square – for which the statement is true.   1. The diagonals bisect each other. 2. Opposite sides are congruent. 3. It is equiangular and equilateral. 4. The diagonals bisect opposite angles. 5. The diagonals are perpendicular. 6. It is equiangular. |
| 5.  http://docs.google.com/File?id=dcjnm59j_16gf68k5fk_b | 6. Which statement is true?  A. All parallelograms are rhombuses.  B. All quadrilaterals are parallelograms  C. All quadrilaterals are squares  D.All rectangles are parallelograms |
| 7. Which of the following statements is **NOT** true about parallelograms?   1. consecutive angles are congruent 2. opposite sides are congruent 3. opposite angles are congruent 4. the diagonals bisect each other | 8. |
| 9. Judging by appearance, classify the figure in as many ways as possible.     |  |  | | --- | --- | | **A** | rectangle, square, quadrilateral, parallelogram, rhombus | | **B** | rectangle, square, parallelogram | | **C** | rhombus, trapezoid, quadrilateral, square | | **D** | square, rectangle, quadrilateral | | 10 10. *WXYZ* is a parallelogram. Name an angle congruent to  a parallelg     |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **A** |  | **B** |  | **C** |  | **D** |  | |
| 11. Which of the following quadrilaterals have diagonals that are perpendicular?   1. Parallelogram 2. Rhombus 3. Square 4. Kite 5. I 6. II and III only 7. II, III, and IV 8. II and IV only 9. All of the above | 12. Which of the following quadrilateral is a parallelogram?   1. Rhombus 2. Square 3. Rectangle 4. Trapezoid 5. I 6. II and III 7. I and III 8. I, II, and III 9. All of above |

Create a quadrilateral flow chart: